IN THE CLAIMS:

Please AMEND claims 1, 4, 6, and 17, as shown below; and

Please CANCEL claims 2, 5, 10, and 22, without prejudice or disclaimer.

1. (Currently Amended) A method of manufacturing a doped X-Ba-Cu-O material, the method comprising the steps of:

a) mixing an ~~X-Ba-L-O or~~ X-Ba-Cu-L-O material with an X-Ba-Cu-O material; and

b) crystallising the mixture;

wherein

each X is independently selected from a rare earth (Group IIIB) element, yttrium, a combination of rare earth elements, or a combination of yttrium and a rare earth element; and each L is one or more elements selected from U, Nb, Ta, Mo, W, Zr, Hf, Ag, Pt, Ru and Sn,

wherein the X-Ba-Cu-L-O material comprise material of general formula:

$X_wBa_xCu_yL_tO_z$

wherein each X and L is as defined hereinabove; and

wherein w is 1, 2 or 3; x is 2 to 4; y is 0.1 to 1; t is 0.5 to 1; and z is 4 to 15.

2. (Cancelled)

3. (Original) A method of manufacturing a doped X-Ba-Cu-O material as claimed in Claim 1 wherein the X-Ba-Cu-O material comprises material of the general formula

$X_aBa_bCu_cO_d$

wherein each X is as defined hereinabove, and wherein

a is 1 to 4; b is 1 to 6; c is 0.5 to 4; d is 3 to 20.

4. (Currently Amended) A method of manufacturing a doped X-Ba-Cu-O material as claimed in Claim 1, wherein each X is independently selected from one or more of Y, Nd, Sm, ~~Ga~~Gd, Eu and Ho.

5. (Cancelled)

6. (Currently Amended) A method of manufacturing a doped X-Ba-Cu-O material as claimed in ~~claim 2~~claim 1, wherein a is 1, 2 or 3; b is 2 to 4; c is 1 to 3; and d is 4 to 15.

7. (Previously Presented) A method of manufacturing a doped X-Ba-Cu-O material as claimed in claim 1 wherein the $X_aBa_bCu_cO_d$ is added in step (a) to an amount of at least 50% w/w of the mixture.

8. (Previously Presented) A method of manufacturing a doped X-Ba-Cu-O material as claimed in claim 1 wherein the $X_wBa_xCu_yL_tO_z$ is added in step (a) to an amount of at least 0.01% w/w of the total weight of the mixture produced in step (a).

9. (Previously Presented) A method of manufacturing a doped X-Ba-Cu-O material as claimed in claim 1 wherein the $X_wBa_xCu_yL_tO_z$ is a solid.

10. (Cancelled)

11. (Previously Presented) A method of manufacturing a doped X-Ba-Cu-O material as claimed in claim 1 wherein step (b) comprises single crystallisation.

12. (Original) A method of manufacturing a doped X-Ba-Cu-O material as claimed in Claim 11 wherein step (b) comprises crystallisation as a mixture of $X_wBa_xCu_yL_tO_z$ in molten $X_aBa_bCu_cO_d$.

13. (Previously Presented) A method of manufacturing a doped X-Ba-Cu-O material as claimed in Claim 11 wherein step (b) comprises providing in a receptable a mixture of $X_aBa_bCu_cO_d$ and $X_wBa_xCu_yL_tO_z$; melting the mixture; providing a seed or key

to the receptacle; and subsequently manipulating the temperature of, or in the region of, the seed or key, to induce crystallisation of the molten mixture.

14. (Original) A method of manufacturing a doped X-Ba-Cu-O material as claimed in Claim 13 wherein the $X_aBa_bCu_cO_d$ and $X_wBa_xCu_yL_tO_z$ is added to the receptacle in solid form and the mixture melted.

15. (Original) A method of manufacturing a doped X-Ba-Cu-O material as claimed in Claim 13 wherein the $X_aBa_bCu_cO_d$ is melted in the receptacle and solid $X_wBa_xCu_yL_tO_z$ is added to the molten material.

16. (Original) A method of manufacturing a doped X-Ba-Cu-O material as claimed in Claim 13 wherein the seed or key is added to the molten mixture or added prior to melting the mixture.

17. (Currently Amended) A method of manufacturing a doped X-Ba-Cu-O material as claimed in Claim 16 wherein the seed or key is ~~preferably~~ a crystal of compatible crystallographic and chemical structure to the $X_aBa_bCu_cO_d$.

18. (Previously Presented) A method of manufacturing a doped X-Ba-Cu-O material as claimed in Claim 16 wherein the seed crystal is the identical $X_aBa_bCu_cO_d$

material or $X_aBa_bCu_cO_d$ material with a different X atom to the $X_aBa_bCu_cO_d$ material being crystallised.

19. (Previously Presented) A method of manufacturing a doped X-Ba-Cu-O material as claimed in claim 1 wherein the resultant doped X-Ba-Cu-O crystal is annealed at between 400°C and 700°C.

20. (Previously Presented) A method of manufacturing a doped X-Ba-Cu-O material as claimed in claim 1 further comprising mixing Y2O3 with the mixture produced in step (a).

21. (Previously Presented) A method of manufacturing a doped X-Ba-Cu-O material as claimed in claim 1 further comprising adding Pt to the mixture produced in step (a).

22. (Cancelled)